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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,268	06/27/2003	Douglas B. Davis	RSW920030064US1	8316
53792 7590 03/28/2008 DILLON & YUDELL LLP 8911 N. CAPITAL OF TEXAS HWY. SUITE 2110 AUSTIN, TX 78759				
EXAMINER				
HIGA, BRENDAN Y				
ART UNIT		PAPER NUMBER		
2153				
MAIL DATE		DELIVERY MODE		
03/28/2008		PAPER		

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/608,268  
Filing Date: June 27, 2003  
Appellant(s): DAVIS ET AL.

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Mr. Robert Meeks  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed January 02, 2008 appealing from the Office action mailed August 02, 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

### **(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

### **(8) Evidence Relied Upon**

2003/0061404	Atwal et al	03-2003
2005/0198188	Hickman	09-2005

*Compact Oxford English Dictionary of Current English 3<sup>rd</sup> ed.* available at <http://www.askoxford.com>.

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

**Claims 1-4, 9-12,16-19,22, and 23 rejected under 35 U.S.C. 102(e) as being anticipated by Atwal et al. (US 2003/0061404), hereafter referred to as Atwal.**

As per claim 1, Atwal teaches a method of providing web services, the method comprising: creating an electronic record of a contract (modified WSDL, ¶0070) for a service provider to provide web services (¶0081-¶0082, wherein the modified contract comprises "virtual services [that] can be composed of methods from various web services 25 using the infrastructure 501") meeting a web service category definition (Fig. 17 and ¶0116 see for example "category" "A", "B", "C" and "D") at a web services

hub of a service domain (Gateway, Fig. 5, ref. 500, see ¶0070); and providing a web service to a service requestor from the service domain responsive to the electronic record of the contract ("sends the modified WSDL to the client application", see ¶0070).

As per claim 2, Atwal further teaches wherein providing a web service to the service requester comprises providing the service to the service requestor without requiring the service requestor to discover a service instance that provides the service (see ¶0059 and ¶0069, wherein the gateway module is responsible for the discovery of the web service).

As per claim 3, Atwal further teaches, wherein providing the service to the service requestor comprises providing the service to the service requestor without requiring creation of a contract for the use of a specific service instance (see ¶0010, ¶0071 and ¶0081, wherein the contract is dynamically modified by the gateway such that, although it appears that the services offered by the dynamic contract are provided by a web service, no specific service contract actually exists with the particular web service).

As per claim 4, Atwal further teaches wherein providing a web service comprises: identifying a plurality of ports operative to provide web services meeting the service category definition at the web service hub (see ¶0059, wherein the web service registry repository provides a mapping from the web service 25 URI to the physical location, read as a port address, of the web service URI also see ¶0061 wherein the client

application requires 10 [port] addresses to connect to multiple web services, read as identifying a plurality of ports); and providing the web service to the service requestor responsive to identification of the ports (¶0059).

As per claim 9, Atwal further teaches, wherein creating an electronic record of a contract comprises creating an electronic record of a first contract (see ¶0070 the gateway module receives an API contract 753, read as a first contract, from the web service 25), creating an electronic record of a second contract (modified WSDL 754, read as a second contract) to provide web services that meet a service level criterion to the service requestor at the web services hub (wherein the modified WSDL is customized for the client application, see ¶0010, 0012, and 0071), and wherein providing a web service to the service requester comprises providing the web service to the service requester via the web services hub responsive to the electronic records of the first and second contracts (see ¶0071 wherein communication between the client application and the gateway is facilitated by using the modified WSDL, read as a second contract, and wherein the normal WSDL file, read as a first contract, is used to facilitate communication between the gateway and a corresponding web service).

As per claim 10, Atwal further teaches wherein providing a web service to the service requestor comprises dispatching a service request from the service requester in the service domain based on the electronic records of the first and second contracts (see ¶0071 wherein communication between the client application and the gateway is facilitated by using the modified WSDL, read as a second contract, and wherein the

normal WSDL file, read as a first contract, is used to facilitate communication between the gateway and a corresponding web service) and a service policy of the web services hub (authentication and billing which is facilitated by the gateway, see ¶0086-0090).

Claims 11,12,16-19,22, and 23 are rejected under the same rationale as claims 1-4, 9 and 10 since they recite substantially identical subject matter. Any differences between the claims do not result in patentably distinct claims and all of the limitations are taught by the above cited art.

**Claims 5-8, 13-15, 20 and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Atwal (US 2003/0061404), in view of Hickman (US 2005/0198188).**

As per claim 5, Atwal further teaches, see ¶0050 *"The web service repository 530 is a centralized registry of web services being exposed. It may store a unique identifier (ID) of the web service 25, its location, an API contract request string, and a brief description, all of which is mapped to the web service's unique name or uniform resource identifier"* also see ¶0083, *"When a web service 25 changes its physical location, it is just a matter of updating the data table in the web service registry repository 530 that indicates its location to the gateway module 500. The original entry in the web service registry repository 530 may be created through a gateway module system administration application when a web service 25 is registered with the gateway module 500"*.

However, Atwal does not teach the step of registering and updating the web service with the gateway module comprising polling at least one web services node subordinate to the web services hub to identify at least one service provided by the node; and updating a description of a service category responsive to the polling.

However, in the same art of web services, Hickman teaches a method of automatically discovering web services by querying a known UDDI server address containing a list of web services and identifying from the list suitable web services and automatically downloading at least one machine readable description of the web service (see abstract).

One of skill in the art would have been motivated to combine the teachings of Atwal with the teachings of Hickman for polling web service in communication with the gateway in order to allow the gateway to automatically discover web services.

As per claim 6, Hickman further teaches wherein polling at least one web services node comprises examining a WSDL (Web Service Description Language) description maintained at a subordinate web services node ("downloading at least one machine readable description of the web service [using UDDI] (read as a WSDL description)", see abstract and ¶0001).

The same motivation that was utilized for combining Atwal and Hickman in claim 5 applies equally well to claim 6.



As per claim 7, Atwal teaches a plurality of levels of web services nodes (see Fig. 17 and ¶0071). Hickman further teaches wherein polling at least one web services node comprises polling a plurality of levels of web services nodes (see Fig. 2, ref. 13, and ¶0021, wherein the web services are stored at multiple servers) using a coordinated polling interval scheme ("periodically by the CE device", see ¶0010 and claim 2).

Thus one of ordinary skill in the art would have been motivated to modify the teachings of Atwal with the teachings of Hickman for querying a UDDI server at each of the web service levels in order to discover newly added web services for each web service provider level.

As per claim 8, Hickman further teaches wherein polling a plurality of levels of web services nodes using a coordinated polling interval scheme using staggered polling intervals for adjacent levels of the web services domain ("periodically (read as staggered polling intervals) by the CE device", see ¶0010 and claim 2). The same motivation that was utilized for combining Atwal and Hickman in claims 5 and 7 applies equally well to claim 8.

Claims 13-15, 20 and 21 are rejected under the same rationale as claims 5-8 since they recite substantially identical subject matter. Any differences between the claims do not result in patentably distinct claims and all of the limitations are taught by the above cited art.

## **(10) Response to Argument**

### *I. Claims 18-23 recite statutory subject matter.*

Claims 18-23, are directed to *"A computer program product comprising computer program code embodied on a computer-readable storage medium"*. Since, as claimed, the computer readable medium is limited to a 'storage' embodiment, which implies a physical structure, as opposed to the 'propagating', 'communication', or 'transport' type embodiments disclosed in the specification, see page 5-6, the examiner thus rescinds the U.S.C. 101 rejection of claims 18-23.

### *II. Independent claims 1, 11, and 18 are not patentable over the prior art*

At issue on appeal in claim 1, 11, and 18, is the appellant's expansive claim limitation, *"creating an electronic record of a contract for a service provider to provide web services meeting a web service category definition."*

In contrast to the appellant's argument, see page 10, (*"While expressing a problem, [Atwal] does not disclose or suggest a solution..."*) Atwal et al. (US 2003/061404) (hereafter "Atwal") is clearly directed to the following problem in the art of aggregating web services, see ¶0007,

[0007] Additionally, a company may wish to combine several web services 25 or parts of several web services 25 into an existing or new web service 25. It is time

consuming for a developer to construct new web services 25 that call these other web services 25, and limiting in that the combinations are fixed at design time. There is no way to dynamically aggregate web services 25 based on a user's identity or some other criteria.

Thus Atwal sets out to cure such a deficiency in the art with the use of a web services gateway (see Fig. 5, ref. 500). Specifically, Atwal teaches, see ¶0071, the construction of a modified API contract (for example, WSDL) (read as an electronic record of a contract), and ¶0081-¶0082, wherein the modified contract comprises "virtual services [that] can be composed of methods **from various web services** 25 using the infrastructure 501" (i.e. for providing a plurality of web services).

Furthermore, in Fig. 17 and ¶0116, Atwal teaches these provided web services being organized into "categories" (i.e. *"meeting a web service category definition"*). For example, see ¶0116, "[t]he client application 15 uses web services A1, A2, A4, A5, A6, and A825. In order to supply web services A2 and A526, web services provider A uses web services B1 and B325 respectively, from web services provider B. [ect.]"

With regards to the appellant's argument that Atwal teaches "*a method call for a specific web service, i.e. not a web service category*", (see appellant's remarks, page 9), the examiner respectfully disagrees.

As specifically pointed out above Atwal teaches, see ¶0081-¶0082, wherein the modified contract comprises "virtual services [that] can be composed of methods **from various web services** 25 using the infrastructure 501."

Furthermore, even if, *arguendo*, Atwal teaches a method call for a specific web service rather than a web service category, claims 1, 11, and 18 do not require a method call for a category of web services.

Finally, with regards to the appellant's argument that Atwal does not teach "A *web service category definition*" the examiner respectfully disagrees.

It is a well settled principle that the patent examiner must give the appellant's claim the broadest reasonable interpretation.

"While it is appropriate to use the specification to determine what applicant intends a term to mean, a positive limitation from the specification cannot be read into a claim that does not itself impose that limitation. A broad interpretation of a claim by USPTO personnel will reduce the possibility that the claim, when issued, will be interpreted more broadly than is justified or intended. An applicant can always amend a claim during prosecution to better reflect the intended scope of the claim" *MPEP 2106, sec. (C) "Review the Claims"*.

Thus, consistent with MPEP 2106, the examiner has given the limitation a "*web service category definition*" its broadest reasonable interpretation. For example, the term 'category' has been interpreted in view of the Oxford English Dictionary, as "A *class or division of people of things having shared characteristics*".

Thus, consistent with the reasonable definition of 'a category', the examiner has interpreted the *web service category definition* limitation as "a group of web services that share some characteristic".

Even though Atwal clearly illustrates the web services, which are provided to a requesting clients, as being classified into "sets", see for example "A", "B", "C" and "D", see Fig. 17, the appellant still argues, "[the sets cited by the examiner] "A", "B", "C", and

*"D" are [associated] with web service providers, not categories" (see Appellant's Appeal Brief, page 10).*

However, since the appellant's claim is purposefully vague on what is meant by "a category", it is unclear how the appellant's interpretation of a web service category definition, as claimed, is patentably distinct from the examiner's reasonable interpretation of a web service category definition, as a *'group of web services that share the same characteristic (i.e. the same web service provider)'*.

Although admittedly, the appellant's specification provides a more definite interpretation of a web service category definition, such as page 7, lines 10-16, *"For example, a service requestor that requests a service under a "finance" service category can select a variety of services currently available under that category based on the current service view"*. However, even though the claims are interpreted in light of the specification, limitations from the specification (i.e. a finance category) are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### *III. Claim 3 is not patentable over the prior art*

As per claim 3, the appellant argues certain teachings of Atwal, without providing any citation or evidence in support of the appellant's assertions (i.e. 'the gateway module actually creates a WSDL for a specific web service, e.g., the WSDL returned in response to the API call to the web service 25 has a one-to-one correspondence to the

"modified WSDL" which as discussed above, does not correspond to a web service category").

Nevertheless, see ¶¶0081-¶0082, wherein the modified contract comprises "virtual services [that] can be composed of methods **from various web services** 25 using the infrastructure 501" (i.e. a one-to-many correspondence), which, as noted above, does correspond to a web service category (see Fig. 17 and ¶0116).

*III. Claims 4, 12, and 19 are not separately patentable over the prior art*

As per claims 4, 12, and 19 the appellant argues that there is no disclosure or suggestion in Atwal that "[the web service repository] identifies ports according to a service category definition". However, the examiner respectfully disagrees.

In contrast to appellant's argument, the claim does not require the step of identifying ports according to a service category definition, but rather, the claim requires "identifying a plurality of ports operative to provide web services meeting the service category definition at the web service hub".

Consistent with MPEP 2111.04, the phrase 'operative to provide' suggests intended use and has not been given patentable weight.

Nevertheless, see ¶0061, wherein Atwal clearly teaches the identifying of a plurality of ports operative to provide web services (see ¶0061, "Hence if a client application 15 has ten web services, the client application will require ten addresses to connect to those web services", which at least implies that each web service is

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associated with an address (i.e. port address). Furthermore, as noted above, Atwal clearly teaches the provided web services meeting a service category definition (Fig. 17 and ¶0116).

*IV. Claims 9, 16, and 22 are not separately patentable over the prior art*

As per claims 9, 16, and 22 the appellant argues that the examiner's final rejection was inconsistent. The examiner respectfully disagrees.

"The first contract" limitation, which the appellant alleges to be in reference to "a contract for a service provider to provide web services meeting a web service category definition at a web services hub of a service domain", is not recited in claim 1 from which claim 9 depends.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

Furthermore, as per appellant's argument that Atwal does not teach "a service level criterion", the examiner respectfully disagrees.

As noted above, the patent examiner must give the appellant's claim the broadest reasonable interpretation.

"While it is appropriate to use the specification to determine what applicant intends a term to mean, a positive limitation from the specification cannot be read into a claim that does not itself impose that limitation. A broad interpretation of a claim by USPTO personnel will reduce the possibility that the claim, when issued, will be interpreted more broadly than is justified or intended. An applicant can always amend a claim during prosecution to better reflect the intended scope of the claim" *MPEP 2106, sec. (C) "Review the Claims"*.

Thus, consistent with MPEP 2106, the examiner has given the limitation “a *service level criterion*” its broadest reasonable interpretation.

As noted above, Atwal teaches, see ¶¶0081-¶¶0082, wherein the modified contract comprises “virtual services [that] can be composed of methods **from various web services 25** using the infrastructure 501.” Furthermore, Atwal teaches that web services that are provided to the client application in the modified WSDL is available after an authentication process, see ¶¶0064, for determining “a list of web services 25 to which client application 15 is authorized to access” (read as the various web services methods provided in the modified WSDL are based on an access level assigned to the client application, read as a service level criterion).

Thus the examiner reasonable interpretation of “a service level criterion” as a “security access level assigned to the client application”, clearly falls within the scope of the claim limitation.

Furthermore, the appellant appears to assert that the examiner cites to “the web service categories” (i.e. Fig. 17) as also teachings “the service level criterion”, however, as noted above, the examiner appropriately treated such limitations as distinct.

*V. Claims 10, 17, and 23 are not separately patentable over the prior art*

As per claims 10, 17, and 23, the appellant argues that a service policy is meant to be interpreted as “a mapping of service level definitions for providers to service level definitions for users”, the examiner respectfully disagrees.



As noted above, the patent examiner must give the appellant's claim the broadest reasonable interpretation.

"While it is appropriate to use the specification to determine what applicant intends a term to mean, a positive limitation from the specification cannot be read into a claim that does not itself impose that limitation. A broad interpretation of a claim by USPTO personnel will reduce the possibility that the claim, when issued, will be interpreted more broadly than is justified or intended. An applicant can always amend a claim during prosecution to better reflect the intended scope of the claim" *MPEP 2106, sec. (C) "Review the Claims"*.

Thus, consistent with MPEP 2106, the examiner has given the limitation "a service policy" its broadest reasonable interpretation, which clearly encompasses such service policies as billing and authentication, see ¶¶0086-¶0090.

*VI. Claims 5, 13, and 20 are not separately patentable over the prior art*

As per claims 5, 13, and 20, the appellant argues that Atwal is not organized according to web service category definitions, however, claims 5, 13 and 20 do not require any type of "organizing" of web service category definitions.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

Furthermore, the appellant argues that, even if, Hickman was combined with the Atwal this would not teach "a description of a service category". The examiner respectfully disagrees.

With respect to a web service category description, as noted above, Atwal clearly teaches a plurality of web services within a service category (see Fig. 17 and ¶0116),

Furthermore, Atwal teaches see ¶0050, that for each of these web services, within the service category, there is stored "a brief description [of the web service]", read as a web service category description.

However, Atwal's invention is not limited to a static set of web services but also anticipates the need for scalability (i.e. the adding of newly discovered web services) (see ¶0148).

Thus, the examiner introduces Hickman for teaching a system for querying (i.e. polling) for newly discovered web service descriptions (i.e. updating a web service category description in response to polling) (see abstract).

Moreover, the appellant argues that "even if combined the combination would not teach at least one web services node subordinate to the web services hub", however, the examiner respectfully disagrees.

First, with respect to the term "subordinate", the ordinary meaning of the word is "of less or secondary importance" (see also Oxford English Dictionary). Clearly the web service gateway (i.e. web service hub) is of utmost importance to Atwal's invention, see abstract, thus any other node within the network would presumably be of secondary importance, or subordinate to the service gateway.

Furthermore, the "at least one web services node" has been reasonably interpreted by the examiner to mean at least one node within a web service architecture. Thus for this reason a UDDI server which provides a list of web services (see Hickman abstract) is clearly within the scope of such a limitation.

*VII. Claims 7 and 15 are not separately patentable over the prior art*

As per claims 7 and 15, the appellant argues that Atwal in view of Hickman does not teach the polling of a plurality of levels of web services nodes, the examiner respectfully disagrees.

As noted above, Atwal clearly teaches different levels of web services, see for example Fig. 17, and ¶0116. Furthermore, as noted with respect to claims 5, 13, and 20, Hickman teaches the querying (i.e. polling) of a UDDI web service for discovering newly added web services for a service provider (see Hickman abstract).

Thus one of ordinary skill in the art would have been motivated to modify the teachings of Atwal with the teachings of Hickman for querying a UDDI server at each of the web service levels in order to discover newly added web services for each web service provider level.

*VIII. Claim 8 is not separately patentable over the prior art*

As per claim 8, the appellant argues that the "periodic querying" is merely periodic querying of a UDDI registry, and has nothing to do with the cited relationship (i.e., "staggered"), the examiner respectfully disagrees.

As defined by the Oxford English Dictionary the term "staggered" is to be interpreted as "[to be] spread over a period of time", thus the "periodic querying" of a web services node clearly falls within the scope of the appellant's claim limitation.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Brendan Higa

/Brendan Y Higa/

Examiner, Art Unit 2153

Conferees:

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